

# ABSTRACT OF THE DISCLOSURE

A method and system for measuring angular speed of an object uses a micromechanical filter apparatus and allows  $Q$ -multiplication in both drive and sense modes. The invention takes advantage of the constant amplitude region of a filter spectrum within a passband of the filter apparatus to sense with a constant scaling factor that is independent of frequency variations with the passband. Thus, the system has much less sensitivity to drive mode resonance frequency shifts due to temperature variations, fabrication non-idealities and aging. The system senses angular rate or speed at resonance, which results in a great improvement over conventional gyroscopes operated off-resonance.

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